USDA Forest Service - Southern Research Station - 320 Green Street Athens GA 30602 - http://www.srs.fs.fed.us/disturbance



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# utreach **Activities:**

Five organized groups with a total of 114 people visited Brender Forest during the month of January. These groups included the UGA Forestry School Silviculture Class, a Logger & Timber Purchaser's Workshop, Boy Scouts, a Mercer University Biology Class, and a Mercer University Science Class. These groups utilized the Natural Regeneration Study, the Site Preparation Study, the Natural Area, and other parts of the research forest.

Approximately 26 visitors came by the office at Brender Forest for information and 128 people signed the register at the Hitchiti Interpretive Trail. Some of these visitors came from as far away as Colorado, Florida and New Jersey.

Kat Smith, Corey Babb, and Joe O'Brien attended the Georgia Nature Conservancy Open House in Atlanta, where they interacted with Nature Conservancy personnel form all over Georgia.

Broxton Rocks is a haven of unique habitats for plants rarely found in the southern United States. Located in Broxton, Georgia and under the stewardship of the Nature Conservancy.

# Technology Transfer:



· John Stanturf gave an invited seminar at the Rocky Mountain Research Station in Ft. Collins, CO on "Sustainability, Disturbance. and Restoration." While there he ascended to 11,000 ft. in the Rocky Mountains

to view the long-term watershed research on the Fraser Experimental Forest. The trip left an indelible mark.

• The Encyclopedia of Southern Fire Science (ESFS) is now available at http://fire. forestencyclopedia.net. It currently contains over 500 pages of peer-reviewed content contributed by over 30 authors in the region. Completed topics now include: a history of people and fire in the south, fire ecology and management of 15 different southeastern community types, fire effects on cultural resources and human health, fire education programs, fire in the wildlandurban interface, wildland fuels, fire weather, fire behaviour, fire effects, and prescribed fire. Additional topics will be published monthly until the encyclopedia is completed later this year. Encyclopedia editors, Deborah Kennard and Cynthia Fowler (U. of Hawaii), have collaborated with Southern Regional Extension Forestry (Athens, GA), Mike Rauscher (SRS-Bent Creek), and Pat Flebbe (SRS-Blacksburg), to develop the web infrastructure for the ESFS. The encyclopedia will also be integrated with

the Tall Timbers Fire Ecology Database and FRAMES (Fire Research and Management Exchange System) later this year through the JFSP-funded Southern Fire Portal.

 Mac Callaham hosted Kansas State University graduate student Peg Althoff in a two-day, intensive course in soil invertebrate identification. Peg is working on a project aimed at quantifying the effects of tank training on soil resources at the Fort Riley Military Reservation in Kansas. Peg learned a lot, and Mac enjoyed a sentimental journey 'scoping those prairie inverts!



· Joe O'Brien gave presentation on his work on hazardous management practices to the Pine Rockland Working Group, who met at the University

of Florida's Tropical Research and Education Center in Redland. The group is a consortium of resource managers and scientists working on fire ecology in tropical pine rockland forests in Florida and the Bahamas. At the request of the group, he will create a fire effects monitoring protocol that would ensure data compatibility across agencies.

· John Stanturf has been invited to serve on a



### Technology Transfer Continued:

planning committee for a meeting of IUFRO WP 4.04.02 (Planning and Economics of Fastgrowing Plantation Forests), to be held in the South in 2007. Dave Wear, RTP, has agreed to host the meeting. The group met last September in Lugo, Spain. The conference, "Economics and Management of High Productivity Plantations" was organized by the Escola Politécnica Superior of the University of Santiago de Compostela.



### Meetings/Reports:



• The management team of the Savannah River Forest Institute met in Athens, hosted by the Athens lab. All units at Athens hosted a tour of the Athens facility and described on-going research. Representatives from the North Carolina Division of Forestry, Georgia Forestry Commission, South

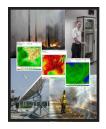
Carolina Forestry Commission, South Carolina DHEC, US EPA regional headquarters at Atlanta also attended. One purpose of the meeting was to review field measurements and results to date for the Savannah River Smoke Project. Gary Achtemeier and Professor Luke Naeher, UGA Department of Environmental Health Sciences, gave a series of talks on the Savannah River Smoke Project. Three preliminary findings of note are: up to 30% of smoke from prescribed burns is being lost to the free atmosphere above the mixed layer; Byram's concept of winddominated and plume-dominated fires does apply to southern prescribed burns; and groundlevel PM2.5 (particulate matter 2.5 microns and less) concentrations from prescribed burns are much lower up to 2 miles downwind than the concentrations calculated from simple methods such as VSMOKE.



· John Stanturf, Ralph DiCosty, Kenneth Outcalt, Mac Callaham, David Combs, and John Moore met with William Nightingale, Oconee National Forest District Ranger, his staff, and staff from the

Supervisor's Office to discuss research on the Hitchiti Experimental Forest and opportunities for research on the Chattahoochee/Oconee National Forest using management actions that have been through the NEPA process. Their wide-ranging discussion touched on the new planning regulations, approaches to meeting monitoring requirements, and ways to increase communication and information flow between the forest and the Athens unit.

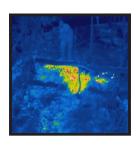
· John Stanturf met with Carol Wells, Chuck Davey, and Bob Kellison to gather personal insights into the development of forest fertilization in the South. Stanturf, Kellison, and others are writing a history of the development of operational fertilization in southern pine forests. Carol Wells, retired Forest Service researcher, is well-known for his nutrient cycling work on the Calhoun Experimental Forest where he began his Forest Service career in 1959. Charles B. "Chuck" Davey is Emeritus Professor of Forest Soils at North Carolina State University and known internationally for his expertise in nursery fertility. Bob Kellison, Emeritus Professor of Forestry also at NCSU, currently serves as interim Director, Institute of Forest Biotechnology.



• Gary Achtemeier and Scott Goodrick met with Gary Curcio, North Carolina Division of Forestry, Paul Watts, South Carolina Forestry Commission, and Dan Chan, Georgia Forestry Commission to assess current status and lay

the groundwork for the creation and transfer of digital fire activity data from the states to SHRMC. These data will be used in regional scale air quality modeling.

 Mac Callaham traveled to Lawrence Livermore National Lab to participate in a workshop updating collaborators on progress in the Enriched Background Isotope Study (EBIS) being conducted at Oak Ridge National Laboratory. The first two years of the ecosystem-scale <sup>14</sup>C tracer study resulted in the surprising finding that leaf litter inputs made nearly negligible contributions to the overall soil organic carbon pools in the hardwood forests at the study site. In light of this finding, the participants discussed their strategy for the EBIS renewal proposal (to be submitted this spring), focusing on quantification of fast and slow pools in the soil C-cycle.



A thermal infrared image of cooperator Kevin Hiers (TNC), raking a hot-spot. He's the blue blob

Kat Smith met with Kevin Hiers Alison McGee, The Nature Conservancy, and Shan Kammack and Jim Ozier, Georgia Department of Natural Resources, at the Moody Tract, an old-growth longleaf forest owned jointly by the Georgia DNR and

· Joe O'Brien and

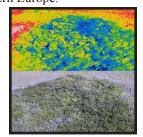
The Nature Conservancy. The site had recently had a prescribed fire which ignited some areas of duff. The managers were concerned about the possibility of re-ignition of surface fuels and asked Joe and Kat to survey the site with their infrared camera for smoldering hot spots. They located several areas with smoldering combustion that were then mopped up. O'Brien and Smith plan to return to the site to measure water stress in trees with varying degrees of root damage. The managers were interested in purchasing an infrared camera to help with mopping up efforts. Joe volunteered to assist them both in camera selection and in surveying stands post-fire for hot spots until they were equipped with their own cameras.

 Mac Callaham met with Dave Grant. inspector for the UDSA Animal Plant Health Inspection Service (APHIS), to obtain permits to import foreign soils into 4104 labs. This is critical to our objective of expanding the unit's international research efforts. Protocols are in place to properly handle and dispose of the soil; basically good housekeeping and heat-sterilizing soil in the muffle furnace before disposal.



### Partnerships:

- Joe O'Brien is collaborating with researchers at Florida International University on using infrared photos to detect tree stress and as a remote sensing tool. He recently took aerial infrared photographs of tree islands in Everglades National Park and in South Florida Management District conservation areas. The photos were taken to measure leaf temperature. The weather was uncooperative (high winds and rain) such that differences in leaf temperature among species were not apparent but they successfully worked out the photographic protocol, located study sites, and experienced extreme airsickness. A follow-up trip is scheduled for February or March, when better conditions prevail.
- · John Stanturf met with Dave Wear, Project Leader of the Economics Unit in Research Triangle Park, to further their collaboration on research on the economics of forest restoration and other topics, including forest management in Eastern Europe.



This infrared (IR) photo of a tree island is a composite of a visual and IR photo taken from about 65 meters above Shark Slough in Everglades National Park. That tree island is probably about 150 meters across, with the tallest trees about 8 m. The temperature range in the photo was only about 2 degrees among the leaves since it was rainy and overcast. On a sunny day, there might be 20 degree difference, depending on whether the tree was in the water or high and dry.

## Science Highlight:

· Invasive species are an important challenge facing land managers, both today and into the foreseeable future. To most people, however, invasive species means just weedy plants or pest insects. Examples that would immediately spring to mind would be kudzu or fire ants. With a little thought, other plants and insects would arise, likely privet, gypsy moth, or the hemlock wooly adelgid. These plants and insects garner the most attention because they have dramatic and visible effects on the landscape. Nevertheless, other lower-profile organisms are invading forested lands across North America that can have equally dramatic consequences for impacted ecosystems. This invasion escapes the notice of land managers because it happens out of sight, under cover of fallen leaves; but it is right under your foot. These stealthy invaders are EARTHWORMS. That's right: your local bait shop is every bit as cosmopolitan as the Upper East Side of Manhattan, featuring visitors from Europe, Africa, and Asia, all available for purchase on any given day. Not surprisingly, these bait worms are constantly being introduced to lakeside and riverside habitats everywhere. But that's not the only mode of invasion. Massive quantities of soil move to and fro in the horticulture business, and most of that soil contains what?? EARTHWORMS! Long recognized as movers and shakers in the soil world, earthworms influence practically every aspect of soil quality (function) with their myriad physical, biological and chemical effects on soil processes. The reason we are concerned about introduced exotic earthworms is that not all species behave similar to natives, nor do they influence soils in the same or equally positive ways. For example, certain worms that have been introduced into hardwood forests in the upper Midwestern states can completely consume the leaf litter layer in a short period of time, altering or eliminating habitat for dozens of other plant and animal species. Solutions to the problem of earthworm invasion are not straightforward for many reasons. Because the public generally perceives earthworms to be "good" for soil, the distinction between good and bad worms is difficult to get across. The invasion usually lacks a striking visual impact, so it is difficult to convince people that it is important to control invasive exotic earthworms. Finally, the vectors by which the worms are introduced involve commercial interests and the regulation of worms (or material that may contain worms) potentially has negative economic consequences. Mac Callaham, Research Ecologist with RWU-4104, and colleagues from an international working group are working together to explore the possible approaches that policymakers,

regulators, and managers could take that would most effectively address the problem of earthworm introductions. The group has a series of papers currently in review that will appear as a special feature in the journal Biological *Invasions* later this year.



The native earthworm (Diploardia longa) collected near Macon, GA

· Yong Liu, as a Co-PI with George Mason

University, submitted a proposal entitled

BlueskyRAINS System Using NASA EOS

Remote Sensing Measurements in Eastern

United States (EastFIRE BSR-RS)" to NASA.

They propose to link satellite remote sensing

products to BlueSkyRAINS, a regional air quality

modeling system, using measurements from the

NASA Terra and Aqua MODIS satellite sensors.

The work would be conducted through the

Center for Earth Observing and Space Research

(CEOSR) at George Mason University (GMU),

and made operational in the eastern U.S. through

collaboration with the USDA Forest Service

(SRS-4104 and the Southern High Resolution

Enhancement

and

From the Cover (Masthead) - Birds from a Survey of the Hitchiti Experimental Forest.



Bachman's Sparrow Aimophila aestivalis



Eastern Bluebird Sialia sialis.



Florida Scrub Jay Aphelocoma coerulescens



Cardinalis cardinalis



Pine Warbler Dendroica pinus



Indigo Bunting Passerina cyanea



Red-cockaded Woodpecker Picoides borealis



Swallow-tailed Kite Elanoides forficatus



Summer Tanager Piranga rubra

## Personnel News:

Modeling Consortium, SHRMC).

Funding:

"Improvement

 Welcome to volunteer Francine Sullivan, who is helping John Stanturf manage the piles of paper in his office.



"It is a wholesome and necessary thing for us to turn again to the earth and in the contemplation of her beauties to know of wonder and humility."

-Rachel Carson (1907-1964)

# News from Around the Region:

- Bob Blackmon, Dean of the Louisiana State University School of Forestry, Wildlife, and Fisheries announced his intent to retire in June 2005 and move to a home on the Hudson River in New York.
- Former US Agriculture Secretary Ann Veneman has been nominated by UN Secretary-General Kofi Annan to head the UN Children's Fund (UNICEF). Veneman, who will assume her new duties on 1 May 2005, replaces Carol Bellamy who is retiring from the post, which traditionally goes to an American. (Source: Earth Negotiations Bulletin)
- In a surprising move, MeadWestvaco announced plans to sell their paper business (mills and land) to a private buyout group for \$2.3 billion so it can focus on its packaging business. The buyer in the deal announced Tuesday is a new company to be based in Dayton, OH. The company is controlled by Cerberus Capital Management LP, a private, New York-based investment firm. The deal requires regulatory approvals and financing. Peter Vogel, current president of MeadWestvaco's Papers Group, will become CEO of the new company, which will be led by current paper division managers. About 6,300 employees (about 20% of the current employees of MeadWestvaco) are expected to join the new company. Under the terms of the agreement, the new company will acquire mills located in Chillicothe, OH; Escanaba, MI; Luke, MD; Rumford, ME; and Wickliffe, KY. The mills have a combined annual capacity of about 2 million tons of coated paper, 290,000 tons of carbonless paper and 110,000 tons of uncoated paper. The sale also includes about 900,000 acres of forest lands in Illinois, Kentucky, Michigan, Missouri, Ohio and Tennessee. After the sale is completed, MeadWestvaco will own about 1.2 million acres of forest land. (Source: Associated Press)
- One aftermath of the Asian Tsunami disaster is the recognition of the role of coastal forests, particularly mangroves, which buffer coastal areas. Mangroves cover an area of around 15 million hectares (or 150 000 sq km) worldwide with close to 40% of this area found in the countries affected by the tsunami. As would be expected, mangroves and other coastal forests and trees were adversely affected. During the recent tsunami, the Pichavaram mangrove forest in Tamil Nadu in India slowed down the waves, protecting around 1,700 people living in hamlets built inland between 100 to 1,000 meters from the mangroves. In Malaysia, in areas where the mangrove forests were intact, there was reduced

damage. Officials in Sri Lanka made similar observations. In Indonesia, the death toll in the island of Simeuleu, located close to the epicenter was relatively low, partly due to mangrove forests that surrounded the island. On the other hand, narrow strips of mangroves, when uprooted or snapped off at mid-trunk and swept inland, can cause extensive property and life damage. At least in one reported case in Thailand they



A stand of low mangrove trees (Rhizophora munonata) in the Sundarbans mangrove forest, Bangladesh, showing aerial roots. (FAO photo)

have also damaged shallow coral reefs. The extent of the damage is still not clear and there may be delayed impacts from the deposit of silt that may clog the pores of the aerial roots of mangroves, and thus suffocate them. Changes in topography, soil salinity and freshwater inflow from upstream may also adversely affect the mangroves and other coastal forests in the longer term. Demand for fuelwood, for wood to rebuild houses and infrastructure and for constructing fishing boats is substantial, which is likely to place further pressure on the coastal forests, including mangroves. According to the Press Trust of India, the state forest department of Tamil Nadu has drawn up a massive mangrove afforestation program for the entire coastal belt to help prevent losses arising out of natural calamities. The department already has begun planting casuarinas and coconut saplings in the badly affected villages of Keechankuppam and Seruthur in Nagapattinam district. About 1500 hectares were affected by the tidal waves; the soil was turned saline and overlain by a fourinch thick layer of clay. Restoration of damaged mangroves should be undertaken as part of the post-tsunami rehabilitation process, but the FAO has cautioned that planting of mangroves should be avoided in areas where they would replace other valuable ecosystems, such as turtle nesting grounds and sea grass beds.

 The IUCN Secretariat has formed a Tsunami Task Force, which is considering proposals such as the establishment of an environmental helpdesk for reconstruction activities in affected countries and the writing of environmental manuals for coastal zone damage assessment and reconstruction. For more information on what IUCN is doing in the tsunami aftermath, including some initial assessments of damage to coral reefs, mangroves and coastal wetlands, check the news stories of January 5th, 7th and 12th on http://www.iucn.org/.



• Storms in Europe have once again ravaged forests there. Initial estimates in Scandinavia include 1 million cubic meters of mostly Norway spruce down in Denmark and 75

million cubic meters in Sweden, mostly in the southern part of the country where small private landowners predominate.

 Stora Enso, the world's largest paper and board maker, is mulling increasing production in Brazil. The Finnish-Swedish company's first venture in Brazil, the Veracel factory in the state of Bahia, is due to start production in May of wood pulp it will transform into paper at its factories in other countries. The \$1.2 billion project was launched in conjunction with Brazil's Aracruz, the world's biggest producer of bleached eucalyptus wood pulp. Although the company's Latin American business is tiny compared to its other global operations, high economic growth rates and low paper consumption in the region were making the area more important, with Brazil, Chile and Argentina as key markets. Latin America accounts for about \$300 million of Stora Enso's annual global sales of about 13 billion euros. Company executives have said Stora Enso was more comfortable investing in Brazil than other high-growth emerging markets such as China and Russia because of the South American country's legal and environmental laws and the maturity of its paper and wood pulp sector.



•The Brazilian State of Amazonas has announced the creation of a mosaic of protected areas totaling over three million hectares in the southern part of the state, according to a recent

press announcement. The Apui mosaic covers an area that is slightly smaller than the state of Belgium. It consists of nine inter-connected conservation areas: two state parks that

# News from Around the Region:

emphasize nature protection, four state forests that focus on sustainable forest management, and three extractive and sustainable use reserves that provide options for traditional people and resource users to practice sustainable harvesting. The Apui Mosaic, covering a total of 3,044,975 ha, consists of: Guariba State Park (72,296 ha); Sucunduri State Park (1,006,350 ha); Bararati Sustainable Development Reserve (153,083 ha); Aripuanã Sustainable Development Reserve (260,380 ha) Guariba Extractive Reserve (180,904 ha); Sucunduri State Forest (545,163 ha) Aripuana State Forest (369,337 ha); Apuí State Forest (286,161 ha); and the Manicoré State Forest (171,300 ha). (Source: WWF press release)

• The new Eastern Forest Environmental Threat Assessment Center will be located at the Southern Research Station headquarters in Asheville. This center will be part of a nationwide network of early warning activities. Its purpose is to develop and apply the technology for prediction, early detection, and assessment of environmental threats to eastern forests. This includes insects and diseases, fire, drought, hurricanes, ice, etc. The emphasis will be on providing information and technology to managers in a form that is timely, practical, and user friendly. The program of the Center will include modeling and also the use of remote sensing. The SRS will soon be seeking a Center Director who will flesh out the science and applications programs and work with station management to develop the organization and staff. Partnerships with other government agencies and institutions will be sought. The annual budget for the Center will be \$2.4 million, provided from the WO equally from Research, NFS, and S&PF. Although this position is located at SRS, its focus is east-wide and includes all land ownerships.



· Daniel C. Esty, Director, Yale Center for Environmental Law Policy, USA, unveiled and 2005 Environmental Sustainability Index (ESI) at the World Economic Forum being

held in the Swiss resort of Davos. Finland is the world leader of the 146 countries studied for the global index. North Korea, Iraq and Taiwan are at the bottom of the list, and the United States was in 45th place. The index is based on an assessment of a country's natural resources, past and present pollution levels, environmental management efforts and how well it improves its environmental performance over time. In other news from the Forum, Jane Lubchenco, President of the International Council for Science (ICSU) and former president of the Ecological Society gave a preview of the Millennium Ecosystem Assessment (which is to be released officially on 30 March). Two-thirds of the 23 ecosystem services that the report examines are described as degraded or used in an unsustainable way, contributing to climate change and adversely affecting the quantity and quality of water, biodiversity and reactive nitrogen levels (essential for plant growth). More news on the World Economic Forum is at their website http://www.weforum.org (Source:



• The UN Food and Agriculture Organization (FAO) launched newsroom dedicated forest issues on its website. The newsroom,

intended for journalists and others with a specific interest in FAO's work in forestry, has links to press releases and other news items as well as feature stories on forestry field projects and in depth articles focused on specific forestry issues. The FAO Forestry Newsroom also has links to useful information such as FAO's country information website, maps and graphs, contacts information, fact sheets on the work of FAO's forestry department, and a search engine. In the near future the visitor will have access to the FAO forestry photo database via the newsroom. The FAO Forestry Newsroom is found at: http:// www.fao.org/forestry/newsroom/en/news/ index.html (Source: FAO)

· Legislation to establish a 21st Century Water Commission was submitted in the House (HR 135). The Commission would study and develop recommendations for a comprehensive water strategy to address future water needs. The bill was referred to the Committee on Resources, and in addition to the Committee on Transportation and Infrastructure, for consideration. The bill is an attempt to respond to findings that the nation's water resources will be under increasing stress and pressure in the coming decades; a thorough assessment of technological and economic advances that can be employed to increase water supplies or otherwise meet water needs in every region of the country is important and long overdue; and a comprehensive strategy to increase water availability and ensure safe, adequate, reliable, and sustainable water supplies is vital to the economic and environmental

future of the nation. The Commission is charged with using existing water assessments and conduct such additional assessments as may be necessary to project future water supply and demand; studying current water management programs of Federal, Interstate, State, and local agencies, and private sector entities directed at increasing water supplies and improving the availability, reliability, and quality of freshwater resources; and more. For more information, go to http://thomas.loc.gov, enter HR 135 into search box. (Source: ASA-CSSA-SSSA Science Policy Report)

· The World Commission on Protected Areas (WCPA) is planning workshops on Mountain Conservation Connectivity Management 2006), Transboundary Conservation Management in Mountains (in 2007) and Managing Ecotourism in Mountain Protected Areas (in 2008). A short description of the workshops is posted on http://www.iucn.org/ themes/wcpa/biome/mountain/IUCNWorkshop BrochureNov20041.pdf



### Publications:

FY 2005 Publications: (\* denotes new publication this month)

Refereed Journals and Book Chapters

Baumhauer, Madsen, P., Stanturf, J.A. 2005. Regeneration by direct seeding—a way to reduce costs of conversion. Chapter 22 in Stanturf, J.A. and Madsen, P, eds. Restoration of Temperate and Boreal Forests. CRC Press, Boca Raton. P. 349-354.

Brockway, D.G., Outcalt, K.W., Tomczak, D.J., Johnson, E.E. 2005. Restoring longleaf pine forest ecosystems in the southern U.S. Chapter 32 in Stanturf, J.A. and Madsen, P, eds. Restoration of Temperate and Boreal Forests. CRC Press, Boca Raton. P. 501-519.

Gardiner, Emile S., Stanturf, John A., Schweitzer, Callie J. 2004. An afforestation system for restoring bottomland hardwood forests: biomass accumulation of Nuttall oak seedlings interplanted beneath eastern cottonwood. Restoration Ecology 12(4): 525-532.

Haight, Robert G., Cleland, David T., Hammer, Roger B., Radeloff, Volker C., Rupp, T. Scott. 2004. Assessing fire risk in the wildland-urban interface. Journal of Forestry 102(7): 41-48.

## Publications

FY 2005 Publications: (\* denotes new publication this month)

Hoadley, Jeanne L., Westrick, Ken, Ferguson, Sue A., Goodrick, Scott L., Bradshaw, Larry, Werth, Paul. 2004. The effect of model resolution in predicting meteorological parameters used in fire danger rating. J. Applied Meteorology, 43(10): 1333-1347.

\*Kennard, D. K. 2004. Commercial tree regeneration 6 years after high-intensity burns in a seasonally dry forest in Bolivia. Canadian Journal of Forest Research 34(11): 2199-2207.

Long, Alan J., Wade, Dale D., Beall, Frank C. 2004. Managing for fire in the interface: Challenges and opportunities. Chapter 13 in Vince, Susan W., Duryea, Mary L., Macie, Edward A., Hermansen, L. Annie, eds., Forests at the Wildland-Urban Interface. CRC Press, Boca Raton. P. 201-223.

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Stanturf, J.A., Conner, W.H., Gardiner, E.S., Schweitzer, C.J., and Ezell, A.W. 2004. Recognizing and overcoming difficult site conditions for afforestation of bottomland hardwoods. Ecological Restoration 22(3): 183-193. (Counted in last year)

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\*Stanturf, J.A., Gardiner, E.S., Conner, W., Outcalt, K., Guldin, J. 2004. Restoration of southern forest ecosystems. In Rauscher, H.M., Johnsen, K., eds. Southern Forest Science: Past, Present, Future. USDA Forest Service Southern Research Station, Asheville, NC; General Technical Report SRS-75; pp. 123-131.

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Abstracts and Posters

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DiCosty, Ralph and Stanturf, John. 2004. Fifty years of prescribed burning: effects on soil organic matter composition and podzolization in a Spodosol soil profile in the Southeastern United States. Soil Science Society America Annual Meeting Abstracts.

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# Upcoming Events:

2005		*May 22-25	Soil Ecology Society Meetings at the Argonne National Labora tory in Illinois. Callaham to attend and present.	
Feb 1-2	3rd Symposium on Hemlock Woolly Adelgid in the Eastern United States, Asheville NC; http://www.saveourhemlocks.org/conference/conference.shtml	Jun 6-10	National Silviculture Workshop, "Restoring fire-adapted forested ecosystems" Granlibakken Conference Center in Tahoe City, California	
Feb 15	Forest Service Research Advisory Committee meeting, Albuquerque; Stanturf to attend	Jun 12-16	5th North American Forest Ecology Workshop, Aylmer, Quebec, Canada; http://www.unites.uqam.ca/gref/nafew2005/	
Feb 16-18	Wildland Fire 2005 and National Fire Plan Conference, Albuquerque, NM; http://www.iafc.org/conferences/wildland/index.asp	Jun 20-24	5th International Conference on Forest Vegetation Management, IUFRO Research Group 1.13.00 Forest Vegetation Management. Corvallis, Oregon, USA. http://outreach.cof.orst.edu/icfvm/index.htm	
Feb 23-24	Regional Fire Management Workshop, Atlanta, GA. Outcalt to attend and present research update.	Jul 17 – 20	American Society Agricultural Engineers (ASAE) annual	
Feb 28-Mar 4	13th Biennial Southern Silvicultural Research Conference, Memphis http://www.srs.fs.usda.gov/disturbance/bssrc		meeting, Tampa, Florida; session on Forest Engineering Contributions to Biomass Collection and Transport organized by Bryce Stokes, Email: bstokes@fs.fed.us	
Mar 7-11	Model Development: Landfire Rapid Assessment Reference Condition Modeling Workshop, Southeastern U.S., Tallahassee, FL. Outcalt to attend.	Jul 18-22	AFFORNORD, Conference on Effects of Afforestation on Ecosystems, Landscape & Rural Development, Reykholt, Ice land; http://www.skogur.is	
Mar 13-16	Emerging Issues Along Urban/Rural Interfaces: Linking Science and Society; Atlanta, IUFRO 6.00; http://www.sfws.auburn.edu/urbanruralinterfaces/	Aug 5-7	IUFRO meeting, Improving Productivity in Mixed-Species Plantations, Southern Cross University, Lismore, Australia; contact dnichols@scu.edu.au	
Mar 16-18	Coastal Plains Chapter of the Society for Ecological Restoration and the Florida Chapter of The Wildlife Society joint meeting, Brooker Creek Preserve, FL	Aug 8-13	IUFRO World Congress, Brisbane, Australia. Stanturf to attend. http://www.iufro2005.com	
Mar 21-24	USDA Symposium Greenhouse Gases In Agriculture and Forestry: Refining Knowledge and Building Tools, Baltimore, MD;	Sep 9-10	Pre-Conference Workshop in association with Pedometrics 2005 Conference, Gainesville, FL. http://conference.ifas.ufl.edu/pedometrics/#optional	
Mar 29-Apr 6	http://soilcarboncenter.k-state.edu/conference  Global Soil Change: Time-Scales and Rates of Pedogenic Processes,Montecillo, Mexico. http://www.iuss.org/popup/Mexico%202005.htm	Sep 10-12	European Forestry Institute annual conference and Scientific Seminar "Multifunctional Forest Ecosystem Management in Europe: Integrated approaches for considering the temporal, spatial and scientific dimensions" Centre Tecnològic Forestal de Catalunya (CTFC), Barcelona, Spain	
Apr 19-21	Resource Management Tools & Geospatial Conference, "Envisioning Information," Phoenix, Arizona (with short courses on April 18 & 22)	Sep 12-14	Pedometrics 2005: Frontiers in Pedometrics, Naples, FL. http://conference.ifas.ufl.edu/pedometrics/	
*Apr 24-29	Symposium Analysis and Characterization of Black Carbon in the Environment, to be held during the European Geosciences Union General Assembly, Vienna, Austria; DiCosty to attend and	Sep 12-18	Society for Ecological Restoration 17th International Conference, Zaragoza, Spain. http://www.ecologicalrestoration.net	
	present poster http://www.cosis.net/members/meetings/sessions/information. php?p_id=132&s_id=2304&PHPSESSID=9d31fbbe1e858d5f6e7	Sep 20-21	NOAA/EPA Golden Jubilee Symposium on Air Quality Modeling and Its Applications, Durham, NC.	
Apr 25-27	4a6a8e3db092c  Biennial Georgia Water Resources Conference, Athens; http://ga.water.usgs.gov/gwrc/callforpapers.html	*Sep 25-30	MEDPINE 3: International Conference on Conservation, Regeneration and Restoration of Mediterranean Pines and their Ecosystems, MAIB, Mediterranean Agronomic Institute of Bari - Valenzano (Bari), Italy. For further information contact: Angela Inchingolo or Elvira Loiudice (loiudice@iamb.it)	
Apr 26-29	IUFRO conference on Biodiversity and Conservation Biology in Plantation Forests to be held in Bordeaux, France; http://www.pierroton.inra.fr/IEFC/manifestations/IUFROD82005. html	Oct 15-20	International conference on "Metal fluxes and their stress on terrestrial ecosystems," Centro Stefano Franscini, Monte Verità, Ascona, Switzerland;	
May 11-13	Conference on Remote Sensing and Fire, to be held at George Mason University in Fairfax, VA.		http://www.waldschutz.ch/bioindic/monte_verita/ [Abstracts due 1 May 2005]	
May 11-13	International Conference on Transfer of Forest Science Knowl edge and Technology Transfer, Troutdale, OR; http://www.fs.fed.us/pnw/calendar/tech-transfer/index.shtml	Oct 17-19	23rd Tall Timbers Fire Ecology Conference "Fire In Grassland and Shrubland Ecosystems", Bartlesville, OK; http://www.talltimbers.org	

Oct 19-23 Society American Foresters Annual Meeting, Ft. Worth, TX

Nov 6-10 Soil Science Society of American Annual Meeting, Salt Lake
City, UT

Oct 25-29 Society American Foresters Annual Meeting, PA

Nov 15-17 Fire in Eastern Oak Forests: Delivering Science to Managers,
Ohio State University, Columbus, OH; contact Matt Dickinson
mbdickinson@fs.fed.us

Forested Wetlands, New Bern, North Carolina; http://www.asae.org/imis/meeting/forestcall.cfm

International Conference on Hydrology and Management of



2006

\*Apr 8-12

# GPRAL -

Category	FY 2004	FY 2005
	Total	Total
Number of Refereed Journal Publications	20	12
Number of Non-Refereed Publications (include abstracts)	89	18
Number of Publications (refereed + non-refereed)	109	30
Number of Tours	41	16
Number of Short Courses/Training	20	7
Number of Invited Presentations to Scientific Organizations	12	2
Number of Invited Presentation to Lay Organizations	30	14
Volunteer Presentations to Scientific Organizations (non-GPRA	42	13
Number of Technology Transfer Activities (other than above)	105	65
Outside Funding	\$2,610,574	\$977,969

### SRS-4104 Project Leader's Report

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